

Philosophical Magazine Letters

Physics of Condensed Matter



Taylor & Francis

London • New York • Philadelphia

PHILOSOPHICAL MAGAZINE LETTERS

Joint Editors

PROFESSOR E. A. DAVIS
Department of Physics,
University of Leicester, U.K.

DR S. R. ELLIOTT
Department of Physical Chemistry,
University of Cambridge, U.K.

Advisory Editors

DR D. J. H. COCKAYNE
Electron Microscope Unit,
University of Sydney, Australia

PROFESSOR C. DOMB
Department of Physics,
Bar-Ilan University, Israel

DR M. DUESBURY
Division of Physics,
National Research Council, Canada

PROFESSOR C. P. FLYNN
Materials Research Laboratory,
University of Illinois at
Urbana-Champaign, U.S.A.

DR M. J. GORINGE
Department of Metallurgy and
Science of Materials,
University of Oxford, U.K.

PROFESSOR F. HENSEL
Fach Physikalische Chemie,
Philipps-Universität,
Marburg, F.R. Germany

DR M. KLÉMAN
Laboratoire de Physique des Solides,
Université de Paris-Sud, France

DR A. B. LIDIARD
Theoretical Physics Division,
AERE Harwell, U.K.

PROFESSOR K. MORIGAKI
Institute of Solid State Physics,
University of Tokyo, Japan

DR C. SCHLENKER
Laboratoire d'Études des Propriétés
Électroniques des Solides,
CNRS-Grenoble, France

PROFESSOR A. SEEGER
Institut für Physik,
Max-Planck-Institut
für Metallforschung, Stuttgart,
F.R. Germany

DR R. J. STEWART
J. J. Thomson Physical Laboratory,
University of Reading, U.K.

DR R. A. STREET
Palo Alto Research Center,
Xerox Corporation, U.S.A.

PROFESSOR U. VALDRÈ
Dipartimento di Fisica,
Università di Bologna, Italy

Consultant Editor

PROFESSOR SIR NEVILL MOTT
Cavendish Laboratory, University of Cambridge, U.K.

CONTENTS OF VOL. 56

NUMBER 1—JULY

PAGE

Structure of AlGaAs/GaAs multilayers imaged in superlattice reflections By R. VINCENT, D. CHERNS, S. J. BAILEY and H. MORKOÇ	1
A note on configurational force and torque expressing the interaction between a superficial inhomogeneity and a matrix By M.-H. AMBROISE, T. BRETHERAU and A. ZAOUI	7
Observation <i>in situ</i> de la propagation d'une micromacle (mecanismes d'intersection) Par A. COUJOU	13
Dislocation structures in cyclically deformed [001] copper crystals By N. Y. JIN	23
High-temperature superconductivity in La- and Lu-substituted $\text{YBa}_2\text{Cu}_3\text{O}_7$ and related oxides By A. K. RAYCHAUDHURI, K. SREEDHAR, K. P. RAJEEV, R. A. MOHAN RAM, P. GANGULY and C. N. R. RAO	29
The silicon {113} surface as a test for surface-energy calculations By I. G. SALISBURY and N. P. HUXFORD	35
Effects of stress on the dry oxidation of silicon. Theory of molecular-oxygen diffusion in silica By J. P. HAGON and A. M. STONEHAM	41
Estimation of electron mobilities in simple fluids near the critical point By G. R. FREEMAN	47

NUMBER 2—AUGUST

Lattice images of ZnSe crystals By K. WATANABE, K. HIRATSUKA, Y. KIKUCHI and H. YAMAGUCHI	51
Analysis of a displacive superlattice in nickel arsenide By R. VINCENT and R. L. WITHERS	57
Structural relationship between icosahedral and Frank-Kasper phases of Al-Li-Cu By W. DMOWSKI, T. EGAMI, Y. SHEN, S. J. POON and G. J. SHIFLET	63
Mobility edge in Si:P By J. R. MEYER and F. J. BARTOLI	69
Frequency-dependent loss in sandwich samples of hydrogenated amorphous silicon By K. SHIMAKAWA, A. R. LONG and O. IMAGAWA	79

NUMBER 3—SEPTEMBER

PAGE

The observation of stacking-fault tetrahedra in III-V compounds

- By B. C. DE COOMAN, S. MCKERNAN, C. B. CARTER, J. R. RALSTON,
G. W. WICKS and L. F. EASTMAN..... 85

Variation with density of the transport properties of YBaCuO superconductors

- By E. BABIĆ, Ž. MAROHNIC, M. PRESTER and N. BRNIČEVIĆ..... 91

Effect of spin-orbit interaction on the metal-insulator transition in doped silicon

- By M. KAVEH and N. F. MOTT..... 97

Evidence for microcrystallites in icosahedral AlMnSi

- By E. A. STERN and Y. MA 103

Calculation of energy relaxation and transit time due to hopping in an exponential band tail

- By M. SILVER and H. BÄSSLER..... 109

Microscopic mobility in hydrogenated amorphous silicon

- By D. ADLER and M. SILVER 113

NUMBER 4—OCTOBER

On the short-range order in Al-Mn quasicrystals during low-temperature ageing

- By N. K. MUKHOPADHYAY, S. RANGANATHAN and K. CHATTOPADHYAY 121

Evidence for structural disorder in the icosahedral phase

- By M. J. KAUFMAN and A. J. MELMED..... 129

Single stacking faults in high-stress deformed semi-insulating GaAs

- By A. LEFEBVRE, Y. ANDROUSSI and G. VANDERSCHAEVE..... 135

Sign determination of the ^{57}Fe electric-field gradient in Al-based crystals and icosahedral quasicrystals

- By G. LE CAËR, R. A. BRAND and J. M. DUBOIS..... 143

Near-infrared transitions of $\text{LiNdP}_4\text{O}_{12}$ and $\text{LiErYP}_4\text{O}_{12}$

- By B. M. ANGHELOV and P. EWART..... 153

Electron spin resonance of hydrogenated amorphous silicon-carbon alloy films prepared by magnetron sputtering

- By T. NAKAMURA, N. SAITO, Y. SUZUKI, Y. NAKANISHI and G. SHIMAOKA 161

NUMBER 5—NOVEMBER

Relations between quasicrystals and crystalline phases in Al-Li-Cu-Mg alloys: A new class of approximant structures

- By A. LOISEAU and G. LAPASSET 165

Dislocation velocity measurements in semi-insulating In-doped GaAs

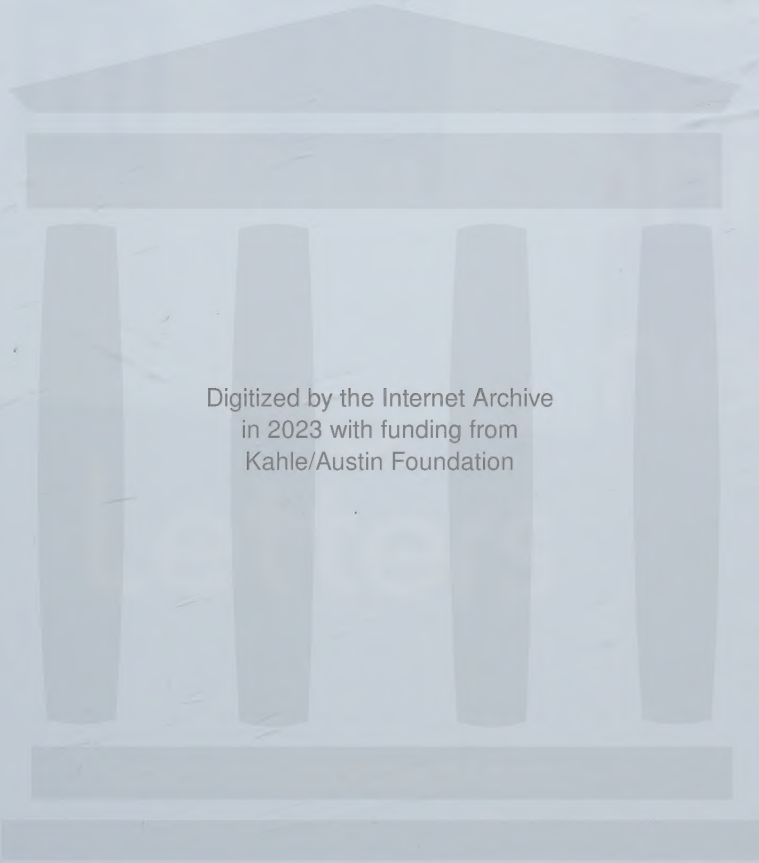
- By N. BURLE-DURBEC, B. PICHAUD and F. MINARI..... 173

	PAGE
Radiation damage in TiO_x at high current density By S. D. BERGER, J. M. MACAULAY, and L. M. BROWN.....	179
An elastic-energy-relaxation/Monte Carlo hybrid scheme of computer simulation for solids By G. E. MURCH and W. A. OATES.....	187
Pressure-induced transitions in amorphous $\text{Ti}_x\text{Se}_{100-x}$ alloys By G. PARTHASARATHY, S. ASOKAN, G. M. NAIK and R. R. KRISHNA	191
Dependence of the persistent photoconductivity in doping-modulated a-Si:H multilayers on the exposure temperature By A. VOMVAS and H. FRITZSCHE.....	197
Modelling the structure of amorphous As_2S_3 By M. A. PAESLER, J. M. LEE and G. PFEIFFER.....	203

NUMBER 6—DECEMBER

Local translational order in the icosahedral quasicrystalline phase of $\text{V}_{41}\text{Ni}_{36}\text{Si}_{23}$ By D. S. ZHOU, D. X. LI, H. Q. YE and K. H. JUO.....	209
A microstructural study of an irradiated $\text{Ni}_{60}\text{Ti}_{40}$ amorphous alloy By A. J. JANICKI and P. J. GRUNDY.....	217
Electron-microscope study of a non-stoichiometric phase in InSb heated in a vacuum By H. SAKA, K. ITOH, T. IMURA and T. KAMINO.....	225
Limiting relations for atomic transport in lattice-gas models of solids By A. R. ALLNATT and A. B. LIDIARD	231
Experimental evidence of relaxation arising from the motion of geometrical kinks on screw dislocations in iron By J. SAN JUAN, M. L. NÓ, G. FANTOZZI and C. ESNOUF	237
Role of impurity elements in metal-metal bond strengths By M. A. S. SAQI and D. G. PETTIFOR	245
Percolative transport in GaAs at 10 T magnetic fields. Interpretation via hydrogen wavefunctions at megatesla fields By R. BUCZKO, J. A. CHROBOCZEK and G. WUNNER.....	251
Comparison of quasicrystalline (T2) and crystalline (R) structures in AlCuLi using high-resolution X-ray diffraction By S. J. POON, W. DMOWSKI, T. EGAMI, Y. SHEN and G. J. SHIFLET	259

	PAGE
A model for the Staebler–Wronski effect By DAI GUO-CAI, GAO GUANG and ZHENG ZHEN-XUN.....	265
Effect of Fe impurity on the superconductivity of $\text{Y}_1\text{Ba}_2\text{Cu}_3\text{O}_{9-x}$ By NAIPING ZHU, XIAOPING JIANG, HONGBO QI, HUA FENG YU, XIAOBIAO ZENG and GUIWEN QIAO.....	271
Subject index	275
Index of authors (with titles).....	277
List of contents	iii



Digitized by the Internet Archive
in 2023 with funding from
Kahle/Austin Foundation

